

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1-15. (Cancelled)

16. (Previously Presented) A method of manufacturing a semiconductor device, comprising:

an initial film-forming step of forming an initial metal film on a substrate by executing once or a plurality of times, a source gas supplying step of supplying gas obtained by vaporizing an organic source to the substrate and allowing the organic source to be adsorbed on the substrate, and thereafter an excited-gas supplying step of supplying gas excited by plasma to the substrate, and causing the organic source adsorbed on the substrate to react with the gas excited by plasma, and forming a metal film on the substrate; and

a main film-forming step of forming a main metal film being the same film as the initial metal film on the initial metal film using a thermal CVD method, by simultaneously supplying the gas obtained by vaporizing the organic source and oxygen-containing gas or nitrogen-containing gas not excited by plasma,

the initial film-forming step and the main film-forming step being performed in the same processing chamber and performed at the same processing temperature.

17. (Previously Presented) The method of manufacturing the semiconductor device according to claim 16, wherein film thickness of the initial metal film formed in the initial film-forming step is set to be 5 to 15 nm, and film thickness of the main metal film formed in the main film-forming step is set to be 20 to 40 nm.

18. (Previously Presented) The method of manufacturing the semiconductor device according to claim 16, wherein the initial metal film is a Ru film or a RuO₂ film, and the main metal film is a Ru film or a RuO₂ film.

19. (Previously Presented) The method of manufacturing the semiconductor device according to claim 16, wherein
- the processing temperature of the initial film-forming step and the main film-forming step are 250°C to 350°C.
20. (Canceled)